Sec 5 - report 3

Sec 3

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Sheet 5 - problem 10 :-

X is binomial variable, Calculate mean (μ), Variance (σ^2) and standard deviation for

a) $n = 80$, $p = 0.2$

b) $n = 70$, $p = 0.9$

c) $n = 1000$, $p = 0.04$

$\mu = np$, $Var = \sigma^2 = npq$, $S.D. = \sigma = \sqrt{Var}$

$q = 1 - p$

a) $\mu = 80 * 0.2 = 16$

$Var = 80 * 0.2 * 0.8 = 12.8$

$S.D. = \sqrt{12.8} = 3.578$

b) $\mu = 70 * 0.9$

$Var = 70 * 0.9 * 0.1 = 6.3$

$S.D. = \sqrt{6.3} = 2.51$

c) $\mu = 1000 * 0.04 = 40$

$Var = 1000 * 0.04 * 0.096 = 38.4$

$S.D. = \sqrt{38.4} = 6.2$